

CLAIMS

1. (previously amended) A speech recognition system, comprising:
 - a first section having an input for receiving a spoken command and providing a polynomial expansion of a feature vector generated for the spoken command in a non-training mode;
 - a second section that provides a polynomial expansion of a feature vector generated in a training mode; and
 - a third section having a correlator block that correlates the polynomial expansion of the feature vector from the first section with the polynomial expansion of the feature vector from the second section, wherein the third section performs a Hidden Markov Model statistical analysis of a correlated feature vector wherein the third section further includes:
 - a sequence vector block having an input for receiving a signal from the correlator block;
 - an HMM table having an output; and
 - a Viterbi block having a first input coupled to the sequence vector block, a second input coupled to the HMM table, and an output that provides a state sequence that maximizes a probability of identifying the spoken command.
2. (canceled)
3. (original) The speech recognition system of claim 1, wherein the first section further includes:
 - a sampler block having an input for receiving the spoken command;
 - a feature extractor having an input coupled to an output of the sampler block; and
 - a polynomial expansion block having an input coupled to the feature extractor and an output that provides the polynomial expansion of the feature vector generated for the spoken command.

4. (original) The speech recognition system of claim 1, wherein the second section further includes:

- a feature vector generator;
- a polynomial expansion block having an input coupled to the feature vector generator;
- a vector quantizer block having an input coupled to an output of the polynomial expansion block; and
- a processing block having an input coupled to an output of the vector quantizer block and an output that provides the polynomial expansion of the feature vector generated in the training mode.

5 - 9. (canceled)

10. (previously amended) A method of identifying a spoken command, the method comprising:

- providing a training mode for sampling speech that includes,
 - extracting a first set of feature vectors from the sampled speech,
 - averaging consecutive polynomial expansions prior to generating a polynomial expansion of the first set of feature vectors,
 - generating the polynomial expansion of the first set of feature vectors, and
 - quantizing the polynomial expansion;
- providing a non-training mode for a speech input that includes,
 - extracting a second set of feature vectors from the speech input, and
 - generating a polynomial expansion of the second set of feature vectors;
- correlating the first higher-order vectors generated in the training mode with the second higher-order vectors generated from the spoken command in the non-training mode; and
- providing a statistical analysis based on a Hidden Markov Model to identify the spoken command.

11. (canceled)